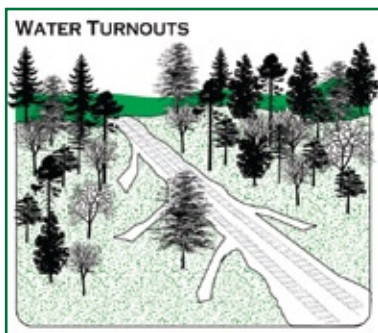


Erosion Control Measures

Wing (Lead-Off) Ditches

A lead-off ditch is a diversion ditch that is constructed to turn water away from the road and out of the side ditch into adjacent, undisturbed areas.



Lead-off ditches should:

- ◆ Intersect the roadside ditch at the same depth and be outsloped to a maximum grade of two percent.
- ◆ Not feed directly into adjacent drainages, gullies or channels.

Erosion Control Measures

- Be installed or cut solidly into the soil and wide enough to allow for maintenance.

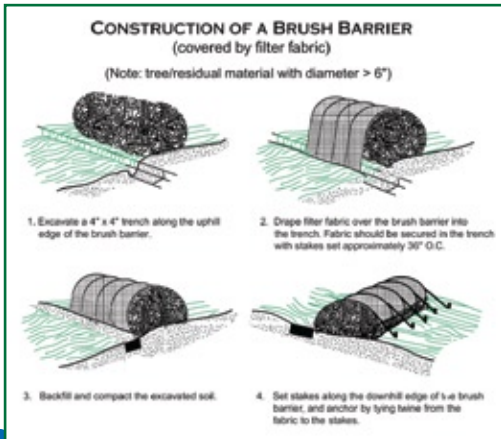
Table 9 Maximum Distance Between Lead-Off Ditches		
Slope	Slope (%)	Distance (ft.)
Flat	2	250
	3	220
	4	190
	5	160
Moderate	6	144
	7	128
	8	112
	9	96
Steep	10	80
	11	60

Erosion Control Measures

On sloping roads, the lead-off ditch should leave the road ditch at a 30 to 45 degree angle to the roadbed and downsloped less than two percent.

Brush Barrier

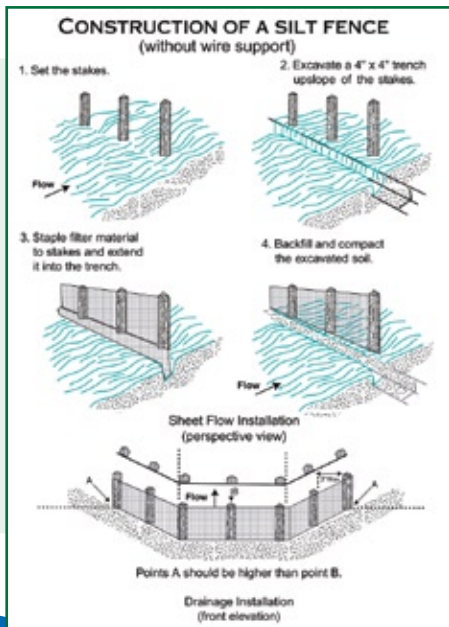
A brush barrier is a temporary sediment barrier constructed at the perimeter of a disturbed area, such as log decks adjacent to the SMZ or skid trails in the bottom of swales. The purpose of the brush barrier is to intercept and retain sediment from disturbed areas to prevent sediment from leaving the site.



Erosion Control Measures

Silt Fence

A temporary sediment barrier consisting of a synthetic filter fabric stretched across and attached to supporting posts and entrenched to a depth of four inches.

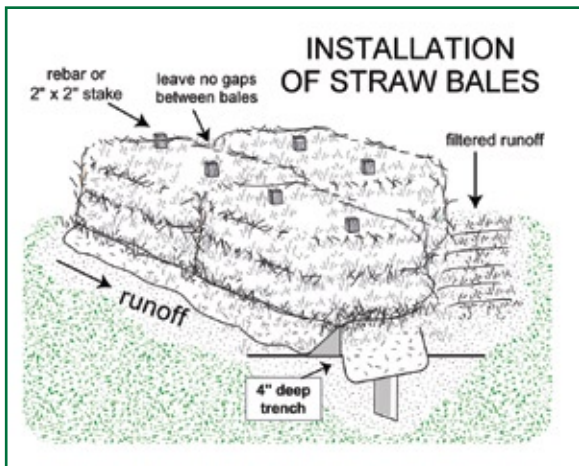


Erosion Control Measures

Straw Bale Barrier

A temporary sediment barrier consisting of entrenched and anchored straw bales.

- Decreases the velocity of sheet flows.
- Intercepts small amounts of sediment from disturbed areas.

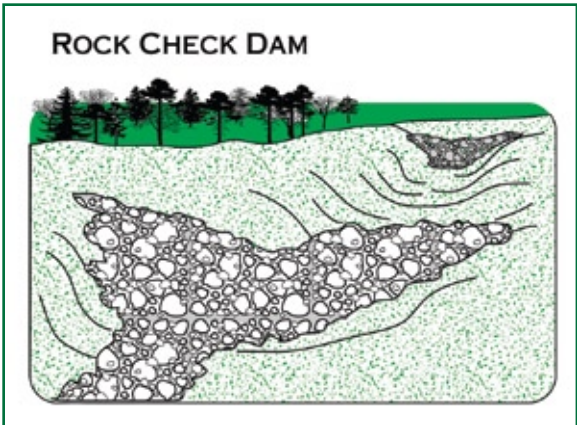


Erosion Control Measures

Rock Check Dams

Small temporary stone dams constructed across a swale or drainage ditch.

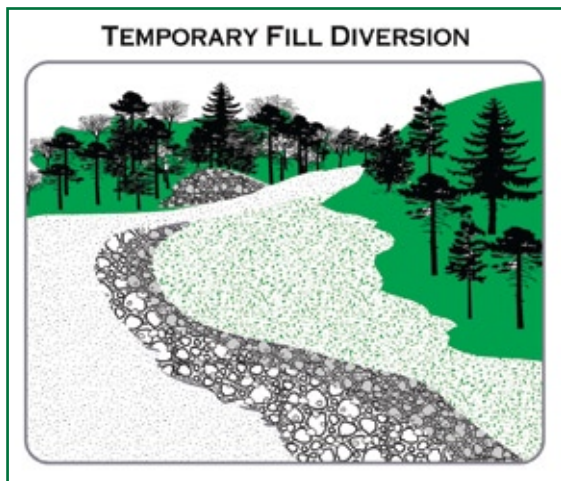
- ♦ Effective in reducing the velocity of water moving in a drainage ditch, thereby reducing the erosive potential of the water in the ditch.
- ♦ An aid in sediment trapping for forestry operations.



Erosion Control Measures

Temporary Fill Diversion

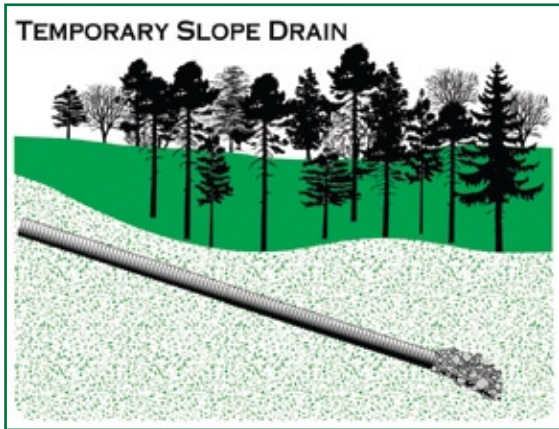
Usually found along the edge of a road where an “active fill” is present directly below the road edge. This diversion will keep drainage from the road surface from crossing the exposed fill and eroding it down-slope. Generally, the water from such a fill diversion is directed to a temporary slope drain, or a vegetated or rock-lined ditch.



Erosion Control Measures

Temporary Slope Drain

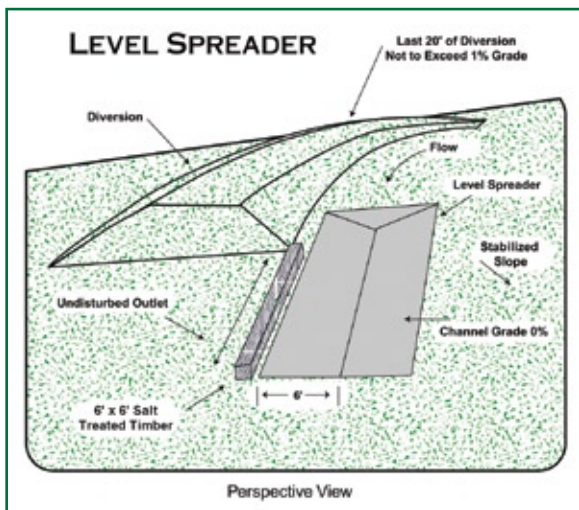
A flexible tubing or conduit used to direct water from a road surface to the bottom of a fill slope. This will prevent erosion of the fill slope. This will also allow for the stabilization with vegetation of the fill slope.



Erosion Control Measures

Level Spreader

An outlet for drainage structures and diversions consisting of an excavated depression constructed at zero grade across a slope.



Erosion Control Measures

The level spreader will release directed flow from a drainage structure, such as a lead-off ditch, to a zero grade and release it into the undisturbed forest area as sheet flow.

The following additional BMP measures can be found in the full manual, *Virginia's Forestry Best Management Practices for Water Quality, Fifth Edition, May 2009*:

- ◆ Sediment Traps
- ◆ Geoweb® improved stream crossings
- ◆ Geotextile
- ◆ Mulching
- ◆ Erosion Control Blankets
- ◆ Surface Roughening